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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/461,671	12/14/1999	PAUL WILKINSON DENT	8194-140IP2	4127

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EXAMINER

SMITH, SHEILA B

ART UNIT	PAPER NUMBER
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2685

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DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/461,671

Applicant(s)

DENT

Examiner

Sheila B. Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3,9,13,20-22,28,32-34,39-41,47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Posner et al (U. S. Patent Number 5,249,201).

*Regarding claims 1, 13,32-34 and 39*, Posner et al. discloses essentially all the claimed invention as set forth in the instant application, further Posner et al. discloses a transmission of multiple carrier signals in a nonlinear system. In addition Posner et al discloses A transmitter that transmits from a common antenna at a plurality of radio frequencies, a plurality of radio channel frequency signals that are modulated with respective information modulation (reads on column 1 lines 35-50), the transmitter comprising, a plurality of modulators (16 a,16b) each modulator generating at least one constant amplitude; at least one saturated power amplifier (22) column 1 line 10, for each of the at least one constant amplitude;. However Posner et al. fails to disclose a coupling network that connects the outputs of the saturated power amplifiers in series to produce a combined signal that is applied to the common antenna.

Especially in view of the fact that Posner et al. does provide for the uses of a filter (24) that connects the outputs of the saturated power amplifiers (22) in series to produce a combined signal that is applied to the common antenna (25) as exhibited in figure 1 and disclosed in

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column 8 lines 8-16. Further, the method used by Posner et al. in transmitting modulated information more than adequately meet the limitation.

Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to modify Posner et al. by specifically providing for coupling network that connects the outputs of the saturated power amplifiers in series to produce a combined signal that is applied to the common antenna as taught by Posner et al. for the purpose of converting and transmitting signals.

***Regarding claim 20,*** Posner et al. discloses everything claimed, as applied above (see claim 1 ) additionally, Posner et al. discloses A transmitter that transmits from a common antenna at a plurality of radio frequencies, a plurality of radio channel frequency signals that are modulated with respective information modulation (reads on column 1 lines 35-50), the transmitter comprising, a means for generating at least one constant amplitude (10), means for separately amplifying each amplitude(22a, 22b), means for serially coupling amplified signals (32) as exhibited in figure 2.

***Regarding claims 2,9,21,28,40,47,*** Posner et al. discloses everything claimed, as applied above (see claim 1 ) additionally, Posner et al. disclose at least one constant amplitude, phase modulated drive signal is a single constant envelope modulation drive signal and wherein the information modulation is a constant envelope information modulation as in column 5 lines 50-59.

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***Regarding claims 3,22,41*** Posner et al. discloses everything claimed, as applied above (see claim 1 ) additionally, Posner et al. disclose the constant envelope information modulation is at least one of frequency and phase modulation as in column 5 lines 50-59.

2. Claims 4-8,10-12,14-19,23-27,30,31,35-38,42-46,48-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Posner et al in view of Taira et al. (U. S. Patent Number 5,659,886).

***Regarding claims 4,10,23,29,42,48***, Posner et al. discloses everything claimed, as applied above (see claim 1 ) however, Posner et al. fails to specifically disclose the information modulation is at least one of analog voice modulation and digital data modulation.

In the same field of endeavor, Taira et al. further discloses a digital mobile transceiver with phase adjusting strip lines connection to a common antenna. In addition Taira discloses the information modulation is at least one of analog voice modulation and digital data modulation in column 4 lines 27-30.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve Posner et al. by modifying a digital mobile transceiver with the information modulation is at least one of analog voice modulation and digital data modulation as taught by Taira et al. for the purpose of converting and transmitting signals.

***Regarding claims 5,7,24,26,43***, Posner et al. discloses everything claimed, as applied above (see claim 1 ) however, Posner et al. fails to specifically disclose the analog voice modulation is analog Frequency Modulation (FM).

In the same field of endeavor, Taira et al. further discloses a digital mobile transceiver with phase adjusting strip lines connection to a common antenna. In addition Taira discloses the analog voice modulation is analog Frequency Modulation (FM) in column 4 lines 27-30.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve Posner et al. by modifying a digital mobile transceiver with the analog voice modulation is analog Frequency Modulation (FM) as taught by Taira et al. for the purpose of converting and transmitting signals.

***Regarding claims 6,8,12,25,27,31,45,50***, Posner et al. discloses everything claimed, as applied above (see claim 1 ) however, Posner et al. fails to specifically disclose the digital data modulation is at least one of Continuous Phase Modulation (CPM) and Gaussian Minimum Shift Keying (GMSK).

In the same field of endeavor, Taira et al. further discloses a digital mobile transceiver with phase adjusting strip lines connection to a common antenna. In addition Taira discloses the digital data modulation is at least one of Continuous Phase Modulation (CPM) and Gaussian Minimum Shift Keying (GMSK) in column 3 lines 35-45.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve Posner et al. by modifying a digital mobile transceiver with the digital data modulation is at least one of Continuous Phase Modulation (CPM) and Gaussian Minimum Shift Keying (GMSK) as taught by Taira et al. for the purpose of converting and transmitting signals.

***Regarding claims 11,14-19,30,35-38,44,46,49***, Posner et al. discloses everything claimed, as applied above (see claim 1 ) however, Posner et al. fails to specifically disclose the

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digital data modulation is at least one of linear 8\_Phase Shift Keying (PSK) and TC/4 Differential Quadrature Phase Shift Keying (DQPSK).

In the same field of endeavor, Taira et al. further discloses a digital mobile transceiver with phase adjusting strip lines connection to a common antenna. In addition Taira discloses Quadrature Phase Shift which reads on the digital data modulation is at least one of linear 8\_Phase Shift Keying (PSK) and TC/4 Differential Quadrature Phase Shift Keying (DQPSK) in column 3 lines 35-45.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve Posner et al. by modifying a digital mobile transceiver with the digital data modulation is at least one of linear 8\_Phase Shift Keying (PSK) and TC/4 Differential Quadrature Phase Shift Keying (DQPSK) as taught by Taira et al. for the purpose of converting and transmitting signals.

### ***Response to Arguments***

Applicant's arguments filed on 1/14/03 have been fully considered but they are not persuasive.

The applicant argues that the art of record fails to disclose multiple radio channel frequency signals the examiner contends that this limitation is exhibited in figure 2, (28) the N-way power split, splits the signal into multiple channel frequency signals, of Posner et al. (U. S. Patent Number 5,249,201). The applicant also argues that the art of record fails to specifically disclose a coupling network that connect the outputs of the saturated power amplifiers in series The examiner contends that the limitation of the broadly stated claim 1 has been met the

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applicant is referred once again to figure 1, it is obvious that the signal once in the combiner (32) would have to be in series to output a single signal 24.

2. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

### ***Conclusion***

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheila B. Smith whose telephone number is (703)305-0104. The examiner can normally be reached on Monday-Thursday 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 703-308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-6306 for regular communications and (703)308-6296 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

S. Smith  
March 22, 2003

  
EDWARD F. URBAN  
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